REMARKS

As stated on page 2 of the Office Action, the Examiner has rejected claims 1,3-9, 12, 14-21 and 23-28 under 35 USC 103(a) as being unpatentable over Bates at al, US Patent 7,080,360, in view of Pardo et al, U.S. Patent 5,754,839.

As stated on page 8 of the Office Action, claims 10-11 are rejected under 35 USC 103(a) as being unpatentable over Bates at al, US Patent 7,080,360 in view of Pardo et al, U.S. Patent 5,754,839, further in view of Master et al, U.S.patent 6,836,839.

Bates describes a method, apparatus and article of manufacture for debugging code (Abstract). Bates is not oriented towards stream computers with functional units interconnected by switches nor does it envision multiple data and other flows within a stream computer, and their interaction to arrive at a viewpoint descriptive of the data based on a debug stream. Bates uses conventional Von Newman computer architecture of the prior art, described in Fig 1 (prior art) of the present application. Bates does not teach multiple functional units operating concurrently in response to tokens as in a stream computer, nor would the teachings in Bates be applicable in a multiple stream environment where a data stream and a debug stream are present.

Bates does not envision multiple data and other flows within a computer having multiple functional units responsive to tokens, and their interaction to arrive at a viewpoint descriptive of the data based on a debug stream. The teachings in Bates are not applicable in a multiple functional units environment where a data stream containing tokens and a debug stream are present. Bates does not have describe any switching means or other means for re-configuring multiple, concurrently operating functional units.

Further distinguishing from Bates, the present claims have been amended to include structural details referencing each of said functional units of said plurality of interconnected functional units connected to one or more functional units of said plurality of interconnected functional units using one or more programmable switches, said programmable switches responsive to commands concurrent with a data stream.

The effect of tokens on the data contained in the data stream is now further distinguished from Bates. The tokens identify how the functional units are to operate on the data stream. Bates does not have tokens in its data stream, nor can change how the data is to be operated on in accordance with these tokens.

Pardo et al, U.S.Patent 5,754,839, filed august 28, 1995, describes a single, pipelined processor (110), not a plurality of interacting functional units. Pardo is structurally different from the present application, as it does not reference programmable switches connecting functional units. Pardo also does not refer to tokens, or tokens part of a data stream. Pardo does not teach nor suggest using the single computer structure in Bates to arrive at a concurrent, multi-processor structure of the present application where tokens are used to change how the data is to be operated on in accordance with said tokens and switches are used to change the configuration of functional units. Pardo does not describe any switching means or other means for re-configuring multiple, concurrently operating functional units.

As amended, the claims of the present application do not read on either Bates or Pardo, or the combination of Bates and Pardo, because the claims as amended describe multiple, concurrently operating functional units responsive to tokens contained within the data stream where the functional units can be re-configured using switches.

Master at al, U.S. Patent 6,836,839, filed March 22, 2001, does not envision a plurality of functional units, operating concurrently, using a data and tokens as in the amended claims. Master describes " a new category of integrated circuitry and a new methodology for adaptive or reconfigurable computing" (Abstract). The concept of viewpoints generated by a debug stream in conjunction with tokens are not detailed nor suggested.

The Examiner states on page 3 of the Office Action, with regard to claim 1, using Bates as prior art, that

a) It would have been obvious to one of ordinary skill in the art at the time

of the invention that the code when assembled would include compare, addition load and branching instructions;

b) It would have been obvious to one of ordinary skill in the art at the time of the invention that these instructions would have been performed on multiple functional units, instead of a single functional unit. (The code of the program when assembled represents the tokens that will tell the functional units how to operate on the data)

c) Said functional units operating concurrently in response to said data steam (Official notice is given that these functional unit could be arranged in a superscalar processor that executes instructions in parallel. (The advantage of superscalar processors is that they are capable of increased performance through parallel processing).

It is unclear how the Examiner envisions the teachings of Bates in (b) to be obvious when used with multiple functional units operating concurrently. Scaling from a single functional unit to a plurality of concurrently functional units requires much development. The non-obvious nature to go from single tasking to multi tasking is suggested by the many years of transition required to advance from CPM and MS-DOS single user, single tasking operating systems to multitasking, single user operating systems such as Microsoft's Windows 95, 98. It took even more time to go from multi-tasking to multi-user operating system such as Vista. While the Examiner views such transition of Bates from a single user to a multi-tasking system as obvious, applicant respectfully disagrees. A multitasking/multisuer operating system must account for concurrent operations, not merely run multiple copies of single tasking system. Thus multi-tasking is not obvious over single tasking.

As presently amended, Bates also does not teach its use with a plurality of functional units where the functional units are interconnected by switches for routing flows among functional units.

Thus, the claims as amended, detail the use of tokens in concurrently operating, switch connected functional units not present in either Bates, Pardo or Master. The claims are therefore not obvious under 35 USC §103(a) over Bates at al, U.S. Patent

7,080,360 in view of Pardo et al, U.S. Patent 5,754,839, further in view of Master et al, U.S. Patent 6,836,839.

Support for the reference to interconnected switches and functional units and their operation in the amended claims is found in the originally filed specification and the parent application.

Obviousness under 35 USC 103(a)

The applicable test for obviousness as required by 35 USC 103 (a) is summarized by the "suggestion- teaching - motivation" test. Under this test, a claimed invention cannot be held "obvious" under 35 USC 103 in the absence of some proven "suggestion, teaching or motivation" that would have led a person of ordinary skill in the art to combine prior art teachings in the manner claimed. Setting a threshold for 103 obviousness, and applicable herein, is the holding in *Sakraida v Ag Pro, Inc* 425 US 274, 281-282 (1976) where obviousness was found in a "combination which unites old elements with no change in their respective functions".

The functions of elements in the present invention, as claimed, differ substantially from the cited prior art. Neither Bates, Pardo or Master suggest using tokens within a data stream, where the data stream is shared by a plurality of switch interconnected functional units.

In contrast to the cited prior art, the present disclosure has a different structure, different elements performing different functions from Bates, Pardo or Master. Thus the present disclosure is not obvious over Bates or a combination of Bates, Pardo and Master.

In view of the above, the claims have been amended to reflect the structural differences in the present application over Bates, Pardo and Master thus overcoming the 35 USC 103(a) rejection.

No new matter is introduced by the above.
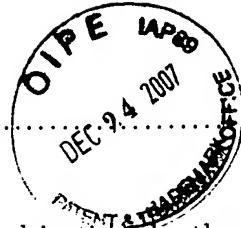
Having overcome rejections and objections by the Examiner, processing towards issue of this application is respectfully requested.

FEE CALCULATION - No independent or dependent claims are added. No fee is due.

Respectfully submitted,

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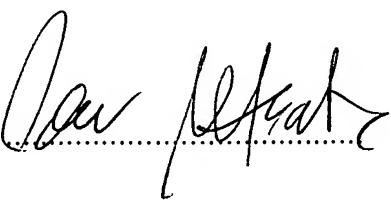
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